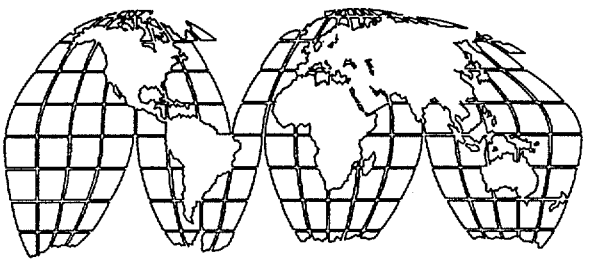
USAID Working Paper No. 214

Center for Development Information and Evaluation



An Assessment of Ecuador's Agribusiness Portfolio

September 1994

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

DRAFT

An Assessment of Ecuador's Agribusiness Portfolio

by

Kenneth Swanberg

September 1994

Prepared for the Programs and Operations Division, Office of Evaluation, under contract no. PDC-0085-C-1140-00

Center for Development Information and Evaluation
U.S. Agency for International Development
Washington, D.C. 20523

TABLE OF CONTENTS

LIST OF TABLES

SECTION ONE

COUNTRY SETTING AND PROJECT DESCRIPTION

COUNTRY SETTING

In the early 1980s, Ecuador suffered from a severe economic crisis brought on by an over-reliance on petroleum exports and by excessive external borrowing. Subsequently, as productivity in the oil-exporting industry waned and international oil prices declined, the debt burden became more onerous and claimed ever larger shares of a dwindling gross domestic product (GDP). Ecuador's traditional agricultural exports also faced stagnant or declining prices amid a lingering development policy of protectionism and import substitution. All of these developments led to a severe balance-of-payments crisis.

Ecuador chose to face this crisis head on; it began a series of devaluations in 1982 and established an International Monetary Fund (IMF) Stand-by Agreement in 1983, with targets for public sector deficits, foreign reserves, domestic credit expansion, and the structure of the public debt. After achieving a degree of stability, the country turned its attention toward the structure of its export sector, to develop a viable path to long-term economic growth and stability.

The Government of Ecuador recognized that the economy had to be revitalized toward a greater reliance on goods and products that could compete in a broad range of external markets. Export diversification was the new strategy, and the bulk of the new products were to come from the agricultural sector.

Macroeconomic Setting

In the early 1970s, Ecuador's principally agricultural economy experienced tremendous transformation when petroleum was discovered and exploited. As oil exports pumped significant resources into Ecuador's economy, not only because of the initial high value of oil but also because of two price hikes induced by the Organization of Petroleum Exporting Countries (OPEC) in 1973 and 1979, international borrowing rose rapidly to finance internal development. This led to a restructuring of Ecuador's economy, with a rapid migration to the cities and an increase in the rate of industrial growth, fostered by a continuing policy of import substitution. Although this strategy serves well while a key export, such as petroleum, generates substantial foreign exchange, a countereffect may occur when that export's earnings begin to taper off.

When the oil-price decline occurred in the early 1980s, the Government of Ecuador realized that a major policy overhaul was required. Productivity in the industrial sector was not up to international standards, and export potential was severely limited. Although nontraditional exports such as chemicals, pharmaceuticals, electrical appliances, textiles, processed agricultural products (cacao, coffee, and tea), processed fish products, and wood products reached $700 million in 1980, principally to the Andean Pact countries, the demand for these goods declined rapidly and, by 1983, fell to $362 million.

Unfortunately, as the world-wide recession struck with full force in the 1980s, oil prices continued to fall, as did prices for Ecuador's other principal traditional exports — bananas, coffee, cacao,

and sugar. As interest on external debt continued to rise and export earnings declined, Ecuador was faced with an extremely critical problem, leading to a real economic crisis. Significant credit must be given to the country's leaders for taking control of the crisis and instituting strong measures to achieve economic recovery. The strategy introduced included — along with devaluation, control of the money supply, reduction of government expenditures, and so forth — the stimulation of export diversification and the promotion of rapid development of the agribusiness sector. The significance of this move was rooted in the idea that the country's natural comparative advantage, other than that of petroleum, lay in its agricultural sector. Although continued support for the production and export of traditional agricultural products could not be expected to recover the income lost from falling prices on oil, coffee, cacao, and sugar, it was determined that a diversified array of agricultural products could generate a significant demand in international markets. A strategy of diversification could help regain the foreign exchange lost from the decline in traditional exports. It also could generate substantial employment and income within the country, thereby stimulating domestic demand.

Agricultural Sector

Ecuador's agricultural sector is divided into two distinct ecological zones. The coastal lowlands are characterized by large farms that produce sugar, bananas, cacao, Manila hemp, fruit trees, and oil palms. In contrast, the highlands produce potatoes, vegetables, fruit, and dairy products in a farming system characterized by *minifundistas* (small farms). In both areas, there is great potential for products that can diversify the agricultural sector and fill the niche export markets identified by the Non-Traditional Agricultural Exports (NTAE) Project in Ecuador.

Table 1 presents the value of total production of nontraditional agricultural exports for the past 13 years. The data show that, although exports of nontraditional agricultural products were significant before the economic crisis, they rose exponentially during the 1980s, from $1 million in 1982 to $65 million in 1993.

TABLE 1

NONTRADITIONAL AGRICULTURAL EXPORTS
(US$ million)

1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994[a]
1.2	1.8	3.1	8.0	9.6	12.9	13.2	15.9	21.6	43.4	53.8	65.4	79.8

[a]Projection, based on six months of sales

PROJECT DESCRIPTION

Origin of the Project

In the early 1980s, the democratic administration of Ecuador recognized that a diversification of agricultural exports was necessary to recover the growth of foreign exchange earnings vital to a country's economic growth. In this context, the U.S. Agency for International Development (USAID) designed

the Non-Traditional Agricultural Exports Project to assist the country in expanding and diversifying its agricultural export portfolio.

The Government of Ecuador made substantial improvements on its price and interest rate policies in the early 1980s; it reduced subsidies, increased interest rates to slightly above inflation, and devalued its overvalued currency to bring it closer to the free market exchange rate. These changes led to a more outward-oriented economy for agribusiness and industry and shifted the investment strategy from the promotion of capital-intensive assembly, chemical, metal, and other industrial subsectors to the promotion of labor-intensive businesses that used raw agricultural materials and other nontraditional export goods, such as leather, textiles, fruit and vegetables, processed foods, and wood products.

A fairly elaborate industrial policy was also set into motion during the early 1980s, this policy included a small industry promotion program and an industrial development law. The program provided exemptions from taxes on exports, on capital goods used to produce exports, and on imports of raw materials for re-export. The law provided accelerated depreciation schedules; it also provided investment credits for new projects. Other incentives included duty-free access to imported inputs, a draw-back mechanism to recover imputed taxes on exports, and short-term credit through the Central Bank and the Fund for the Promotion of Exports (FOPEX), an institution formed to provide credit to small and medium-sized firms in the agriculture sector.

Import tariffs, licensing, and up-front deposits generally dampen the access of agribusiness enterprises to raw materials, inputs, and capital goods needed for packaging and processing, in spite of the intent to ease these constraints; the influence of import-substitution protectionism is still felt. Moreover, foreign investment controls on earnings repatriation and transfer of shares, as well as excessive procedural requirements regulating the export process — documents, approvals, licenses, certificates of nationality, and other administrative clearances — have hindered the development of the nontraditional agribusiness sector in Ecuador.

In addition to the market constraints mentioned above, the agricultural export industry suffered from the lack of skilled labor and, more important, the deficiency in technical and managerial skills, especially for the nontraditional agricultural products. Market information and support services — storage, cooling, and transporting facilities — were also lacking. In terms of production, technology packages had not been developed for the nontraditional agricultural sector, and extension services and specialized input delivery were absent for these products. Perhaps the most critical element not available for the support and promotion of the nontraditional agricultural sector and its related agribusinesses was access to long-term credit for production, processing, and exporting. The project endeavored to address this issue by providing resources to the Central Bank's two discount facilities, the *financieras*, which received funds from the project expressly to provide access to credit.

One positive situation throughout the early 1980s was the shift in government approach from extreme protectionism to support for a new outward orientation and the development of additional export and agribusiness incentives, induced in part by the responses of Ecuador's private sector, working through various organizations, including the Federation of Ecuadorean Exporters (FEDEXPOR) and the National Association of Businesses (ANDE).

When USAID recognized the developments in Ecuador, the USAID Country Development Strategy Statement was set forth; its major strategy was to stimulate the private sector to expand and diversify into more productive and competitive activities. The USAID mission designed the NTAE project to address the lack of technical and market information and the need for long-term credit and financing. Three areas of private sector growth were selected for attention — agribusiness, nontraditional

exports, and small enterprise. The NTAE project was USAID's first effort to address growth in agribusiness and nontraditional exports in the country. With attention directed toward the two areas, USAID expected to create opportunities for further USAID and other donor assistance to increase investments, value-added processing, and employment in the agribusiness and nontraditional export sectors.

In preparing for the design of the agribusiness project, an analysis was conducted on the basic constraints and advantages facing the sectors. Highlights of that analysis showed that Ecuador possesses highly favorable topography, altitudes, and climates, permitting the production of a wide range of tropical and temperate crops and products. Internal infrastructure is reasonably good, with adequate roads from the highlands in the sierra and the lowlands on the coast to the major ports and cities, although market information and communication are not as well developed as would be expected. Although the size of the internal market is not large, it is much larger than that of many Central American and African economies.

Project Design

The first phase of the Non-Traditional Agricultural Exports Project was initiated in 1984, with the goal of stimulating economic growth through the accelerated development of nontraditional agricultural exports. As stated in the Project Paper, the project purpose was simply to promote nontraditional agricultural exports. The second phase of the project was developed in 1989 as an amendment to the original project, and was to provide additional support to expand the impact of the former project, with minor alterations. The first phase of the project experienced amendments and adjustments throughout its life, and these amendments and adjustments continued throughout the management of the second phase as well, adding resources and shifting responsibilities among project participants as deemed necessary by project managers. Three key inputs constituted the essence of the project: the provision of technical assistance in product identification, production, and marketing; the provision of technical assistance to analyze and reform public policy issues regarding the promotion and incentive structure for nontraditional agricultural exports; and the provision of funds and the development of instruments to facilitate long-term financing for nontraditional exports. The current phase of the project is authorized through mid-1994. The principal products considered under the project are cut flowers, fresh fruits and vegetables, specialty crops, and processed fruits and vegetables.

In 1993, USAID and FEDEXPOR created a new project to promote nontraditional industrial exports. All promotion activities for wood products, formally introduced under the auspices of the NTAE project, were transferred to the new project. The nontraditional industrial export promotion project was designed to support the promotion of increases in processed products, textiles, leathers, chemical products, plastics, ceramics, appliances, and many other products in addition to wood products such as lumber, plywood, component pieces, and furniture.

Project Interventions

Organizational and Institutional Strengthening

The project's principal intervention was the strengthening of the capacity of two private sector organizations, FEDEXPOR and ANDE, so that they could provide improved support services to agribusiness firms. These services included the facilitation of contacts between Ecuadorian firms and external sources of technical and marketing information and investment. A third institution, the Agribusiness Advisory Board, was created by the project. An advisor from a U.S. consulting firm was assigned to this institution.

As the project progressed, the roles and responsibilities of these institutions evolved and changed; near the end of the second phase of the project, the project office, PROEXANT, split from FEDEXPOR and converted into a private institution under the umbrella of the Ecuador Foundation. PROEXANT's status as a private institution is expected to give a clearer focus for promotional activities and to provide sustainability after USAID financing ends.

An important characteristic of FEDEXPOR and ANDE was that they were private sector organizations; one was a federation and the other was an association. Each received direct financing from the project to conduct activities and studies, including public policy analyses, international market opportunity studies, pre-investment studies, trade workshops, offshore trade and investment missions, and the establishment of a market information system. Investment project financing was performed by two *financieras,* the discount instruments of the Central Bank and FOPEX.

During the first phase of the project, the contractor, the consulting firm Devres, Inc., formed Verano, Inc., a private trading company specializing in purchases and sales of produce and marine products. The formation of Verano, Inc. was in conjunction with the opening of a FEDEXPOR office in Miami, and was to assist in making export sales to U.S. buyers. In the second phase of the project, a new consulting firm was selected as the contractor, and in-depth services such as agricultural technology development and transfer, quality control and post-harvest management, and agricultural marketing assistance were provided on a fee basis.

Enterprise Development

In the project's initial technical assistance, information on and communication of new technologies and market opportunities constituted the norm, by increasing contacts between Ecuadorian and foreign importing firms. Assistance to individual firms and enterprises was carried out through trade workshops and investment missions in which many private firms participated, and through credit facilities targeted toward private firms. This was done through the strengthening of private sector institutions designed to act as facilitators of services to small and medium-scale firms. Part of the first phase of the project's activities included the provisions of credit funds for agribusiness investments, administered through two *financieras*.

The second phase of the project focused more directly on providing to individual firms assistance in identifying market opportunities, importing technologies (including seeds), establishing contacts, attending to issues of quality and phytosanitary conditions, and identifying financing sources. Technical assistance was provided directly to agribusiness firms through the contractor, working closely with FEDEXPOR. As the project progressed, PROEXANT became the direct implementing agency, working

out of its own office. In the second phase of the project, PROEXANT became a private institution, offering services and conducting development activities directly to its clients, in the nontraditional agribusiness sector.

Intermediation for Market Development

The showpiece of this project was to be a self-financing computerized trade-and-investment intermediation service. Although significant effort and resources were directed at establishing this in-house system, less than satisfactory results were obtained in the first phase of the project. The first phase was also designed to conduct several trade workshops and organize several trade and investment missions between Ecuador and the United States. These activities extended into the second phase of the project.

In the second phase, less emphasis was devoted to the formation of a self-sustaining market information system and more effort was devoted to technology development and transfer; to assistance in regulatory issues, predominantly in regard to phytosanitary and packaging and handling issues; and to the attention of new buyers through market news systems — newsletters, trade fairs, trade missions, and the like. The project managers feel that these services can assist in developing a degree of self-sufficiency.

The second set of significant activities in intermediation for market development included the opening of a Miami office of FEDEXPOR. Although the office's management and function did not fulfill expectations, it was significant that the project managers believed that this office was critical for project success. Unfortunately, the office's utility in the promotion of nontraditional agricultural exports from Ecuador to the United States, compared with the cost of sustaining the office, is questionable.

The USAID contractor created a private trading company, located next to the FEDEXPOR office in Miami, that was designed to assist FEDEXPOR in marketing produce. The private firm took control and possession of the product as it left Ecuador and placed it into the hands of a U.S. buyer. The activities of the firm were short-lived.

Privatization of Parastatals in Marketing and Input Supply

The project did not address parastatal privatization, either because there were no government organizations involved in nontraditional agricultural exports or because the issue was beyond the scope of the project. However, the project did privatize the technical assistance and consulting services offered.

Project Activities

The NTAE project was divided into two phases. Each phase encompassed and stressed different activities.

Training

Phase I. The major training activity comprised six training workshops, scheduled to bring together local entrepreneurs and foreign and national agribusiness experts. Topics analyzed during the

workshops included the operation of Ecuador's barter system, packaging and product standards for specific export products, and U.S. import regulations.

Phase II. Workshops and training activities were not specifically targeted, but several educational and informational conferences, workshops, and dissemination activities were undertaken. Some training courses were also conducted through the sponsorship of FEDEXPOR and other institutions active in agribusiness promotion in Ecuador.

Technical Assistance

Phase I. One of the principal flaws in the first phase of the project, according to the evaluation report, was that the project was designed to be promotional and informational rather than developmental — hence, there was little direct technical assistance provided to agribusiness firms. However, the consulting firm Devres, Inc. assisted in the development of new trading opportunities through its work with FEDEXPOR and the USAID mission; Devres also provided considerable assistance to firms and institutional staff in ways to administer an export promotional program and ways to export new products.

Phase II. A major shift in program focus occurred with the development of a major technical assistance component. The component established, implemented, and supported horticultural research and technology transfer, the provision of plants and seeds, and the development of a phytosanitary program to guide Ecuador's products in attempts to gain admission to U.S. markets.

Market Research and Information Systems

Phase I. The key activity area was the development of a self-financing market information system. Information storage and retrieval was to be developed with regard to external market and financing information; export market opportunities for new and existing products; timely and current information on prices, product standards, regulations, documentation, and shipping costs; access to internal and external sources of technical assistance on production, processing, storage, and shipping; and other services. The information system was to be a computer-based system. An efficient system was not developed in Phase I.

Phase II. The project did develop a respectable market news and information system in Phase II; several market news services are currently accessible through PROEXANT.

In addition to the market information system, the project has undertaken substantial effort in identifying potential clients, contacts, customers, traders, and the like, during both phases of the project — passing directly to making contact with the end user, rather than relying only on available market information, a service that has been less than sufficient in many situations.

Technology Procurement

Phases I and II. The evaluation criticized the first phase for not including technology transfer as a key element or component in the project. During the redesign for Phase II, a technology transfer element — especially the component dealing with quality assurance, postharvest handling, product processing, and fresh product promotion in foreign markets — was made the showpiece. The technical

assistance efforts were directed toward the phytosanitary aspects of production and toward technologies to enhance the development of new products and processes.

Access to Credit

Phase I. Phase I provided $8 million for nontraditional agricultural export activities, through an investment credit facility administered by the two *financieras* designated by the Central Bank. These resources were to finance nontraditional agribusiness export firms that needed fixed and working capital to develop their businesses.

Phase II. Additional resources were made available for the investment credit facility, but the amount actually obligated is unknown.

Input Supply

Phases I and II. The first phase of the project did not deal directly with input supply; in the second phase, a special effort was made to bring in plant and seed material for the new horticultural and fruit crops that were being promoted.

FINANCIAL OUTLAYS

The first phase of the NTAE project was designed for $8.0 million of USAID financing — $4.0 million in grants and $4.0 million in loan funds, which were destined for the investment credit facility. Phase II was for an additional $4.5 million for technical assistance and operations of PROEXANT. The budget breakdown appears in Table 2.

TABLE 2

FINANCIAL OUTLAYS

Project Phase	Years	Amount ($ million)
Non-Traditional Exports, Phase I	1984-1988	8.0
Non-Traditional Exports, Phase II	1989-1994	4.5

Project components for Phase II were as follows:

- Agricultural technology:
  - Horticultural research and technology transfer,

- — Provision of plants and seeds, and
- — Phytosanitary program for admissions into the United States;

- Quality assurance and marketing:
  - — Postharvest handling and marketing,
  - — Quality assurance to differentiate products, thus helping gain competitive market advantage,
  - — Promotion of fresh products in foreign markets,
  - — Promotion of processed products in foreign markets, and
  - — Market news and information services;
- Policy analysis and dialogue; and
- Resources for expansion of nontraditional agricultural exports:
  - — Financial resources for providing credit to the sector (this was provided by other donors and local banks), and
  - — Internal and external investment promotion and support (this was given less emphasis as the project developed).

SECTION TWO

MANAGEMENT AND TECHNICAL ASSISTANCE

ORGANIZATION AND MANAGEMENT

In Phase I, the project contracted with four institutions to carry out the components of the project. None of these institutions was designated as the overall coordinating organization responsible for the others' activities, although one, FEDEXPOR, was indicated as the implementing organization. In addition, FEDEXPOR was contracted to conduct several promotional activities, such as trade missions, workshops, and the market information system. ANDE was contracted to carry out policy analyses. The Central Bank developed the credit fund. An Agribusiness Advisory Board was created to aid the project's activities, guide project decision makers, and supervise operations, and a U.S. consulting firm was contracted to develop an information-marketing service. All these organizations were expected to serve the project's clients — the agribusiness exporters and export facilitation firms.

FEDEXPOR was organized in 1976 as a private federation of highland and coastal exporters. Functions to serve its members include the identification of export diversification opportunities, the promotion of improvements in technical proficiency in production, the obtaining of better incentives from the government — that is, lobbying — and the promotion of new legislation to favor its members' exporting activities. FEDEXPOR had two offices when the NTAE project began — one in Quito and one in Guayaquil. Membership stood at 70 in 1984 and 147 in 1988. For Phase I of the project, FEDEXPOR agreed to establish the computerized information system, to conduct policy analyses, and to conduct activities to influence policy. FEDEXPOR worked with Devres, Inc. in developing the information system. FEDEXPOR also opened an office in Miami.

ANDE, an organization of private entrepreneurs and companies, was formed in 1958 as an entity designed to promote the well-being of entrepreneurs within the country. ANDE's activities concentrated on policy analyses and on active participation in the guidance and orientation of economic developments within the country. ANDE had 70 members in 1984 and 130 in 1988, mostly from the agricultural and agro-industrial sector. ANDE assisted in project formation, policy analyses, the implementation of project planning activities, and the creation and management of the advisory board. ANDE was responsible for identifying 40 products on which the project was to focus, supervising prefeasibility studies on eight groups of these products, and disseminating the resulting information. ANDE was instrumental in the formation of producer associations for asparagus, quinoa, blueberries, strawberries, Chinese beans, *babaco*, and tree tomatoes (*tomate de arbol*).

The Central Bank made credit available to eight intermediate financial institutions, but only two — FINIBER and FINANQUIL — used the credit. FINIBER made 15 loans, using approximately $2.5 million, and FINANQUIL made 7 loans for $1.5 million. Since 1992, credit availability has eased in the country; several international donor loans have been approved that have provided resources for the nontraditional agricultural sector. However, access to this credit still remains somewhat of a problem — although the firms interviewed did not cite it as an overwhelming constraint.

The consulting firm Devres, Inc. provided assistance in obtaining market information and establishing contacts with buyers. Some technical assistance also was provided to clients in Ecuador, but this was not mandated by the project design. Devres also set up an intermediation office in conjunction with FEDEXPOR in Miami. No full-time expatriate staff were assigned to FEDEXPOR or ANDE.

Three ministries participated in the project. The Ministry of Finance authorized the credit mechanism through its Central Bank, the Ministry of Agriculture participated in the advisory board, and the Ministry of Foreign Affairs trained its attaches in the project's promotion of nontraditional exports.

USAID personnel were actively involved in the project until 1987, when there was a dramatic internal upheaval within the USAID mission. Until 1987, the Private Sector Officer had supported project activities. During the upheaval, there was no USAID officer assigned to the project, and the project suffered substantially.

In Phase II of the project, which began in late 1989, a different consulting firm, Experience inc., worked on the project. Project activities and components were changed to respond to the recommendations of the evaluation report, and a separate project management unit was established under the direction and supervision of FEDEXPOR. This unit, PROEXANT, which hired several project managers and staff and had a technical assistance team from the consulting firm, began to take shape as an independent agency devoted to nontraditional agricultural exports. FEDEXPOR, although supportive of this thrust, devoted time to other pursuits of its membership and allowed PROEXANT to lead the way in the sector.

As the project developed, the necessity for self-sustainability became more critical, and PROEXANT established itself as a separate private institution. The contractor, Experience inc., was purchased by Development Alternatives, Inc. (DAI), which now manages the project's technical assistance.

A key issue in management was the change in emphasis, from the simple provision of information to interested clients to the provision of technology transfer and development in production of new export crops and products and the provision of training and quality assurance for production and postharvest handling of exportable products. This change in emphasis led the project management unit to hire personnel to carry out these new functions and to depend on the technical assistance team for additional assistance, including personnel and financing.

A key element of the revised project has been the promotion of producer and processor associations. Several have been developed and are expected to assume more responsibility for the development of the export sector. Seven project offices have been created throughout the country to serve the projects' clients, by providing information on technology, postharvest handling advice, quality control, and market news.

TECHNICAL ASSISTANCE

The initial technical assistance was provided by Devres, Inc., through a contract originating in Miami. Devres, Inc. felt that the contract called only for market information systems and that it called for no technical assistance in production or quality control. FEDEXPOR expected more hands-on assistance and more responsibility in the exporting function. As a result, most parties, including USAID, were unsatisfied.

The project design was amended for the second phase of the project, but the second phase also got off to a rocky start. The inter-institutional conflicts of Phase I continued into Phase II until the project director resigned and was replaced by the former USAID project officer, USAID reassigned a full-time project officer to PROEXANT, and DAI purchased Experience inc.'s contract. The DAI-Experience inc. Chief of Party resigned in July 1993, but was replaced by another DAI staff member, and the project is improving rapidly.

The assistance provided by the technical assistance teams has been highly regarded by all concerned, and has been instrumental in developing several products, most notably pineapple, asparagus, cut flowers, and broccoli. These products may lead Ecuador's exports in a short time. The resources available for short-term technical assistance were originally $1.5 million; with a 1992 amendment, $430,000 was added, principally for the technical assistance advisors, whose direct support from USAID had been reduced in 1992.

In another area, the technical assistance team was responsible for obtaining the assignment and financing of an inspector from the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS).

SECTION THREE

TARGETS AND OUTPUTS

The 1993 Annual Report for the NTAE project stated that the project had accomplished 100 percent of its technical assistance efforts and had requested and was granted additional funding. The report also stated that the project met 121 percent of the quality control and postharvest management objectives, 170 percent of the programmed activities in commercial information and market development, and 107 percent of the policy dialogue and credit development activities.

TABLE 3

PROJECT TARGETS AND OUTPUTS

Targets	Outputs
Phase I (1984-1988)	
Establish a self-financing computerized trade and investment intermediation service	Collected information and subscribed to several information reports. The service fell short of becoming self-financing
Conduct 6 trade workshops	Conducted 4 workshops
Establish 27 trade and investment missions	Conducted 18 missions
Conduct 3 public policy analyses	Contracted 3 studies
Conduct 8 studies on strategy	Contracted 14 studies and 24 cost analyses
Develop 10 model feasibility studies	Conducted 6 feasibility studies, 4 model studies
Finance 30 pre-investment studies	Budget was cut, but at least 25 studies were conducted
Establish line of credit to 27 agribusinesses — $220,000 for each loan	Issued 22 credits; average loan size was $210,000
Create Agribusiness Advisory Board	Successfully created the board; 41 meetings were conducted
Generate $63 million per year in exports of nontraditional agricultural products	Project stimulated only a few million dollars of new sales
Phase II (1989-1994)	
Increase exports of nontraditional agricultural products to $71 million per year by 1994	Exported $57 million in products in 1992; target will be reached by mid-1994
Generate 16,000 additional jobs	24,000 FTEs were generated by 1992
Develop more than 5 products to an export level greater than $2 million per year	Goal was reached by 1992. 1994 products are roses, gypsophila, passion fruit juice, passion fruit concentrate, pigeon peas, carnations, melons, tropical flowers, and dehydrated bananas

ACHIEVEMENTS

Some highlights of the project's activities over the last year include:

- **Technology Transfer:**

  — The inducement of mango flowering to accelerate timing of harvest, to coincide with more favorable market periods;

  — The rapid propagation of improved pineapple planting through methods of apical meristem gouging;

  — The controlled artificial inducement of flowering in pineapples, for programmed production;

  — The introduction of semi-mechanized pesticide applications in pineapple to improve accuracy of dosages, reduce pesticide waste, and protect the environment and worker safety; and

  — The provision of 166 days of technical assistance. PROEXANT charged its clients for these services. The breakdown of time spent in technical assistance was:

    Asparagus and broccoli (8 days),
    Cut flowers (12 days),
    Hearts of palm and tropical flowers (10 days),
    Melons (7 days),
    Tahiti limes (7 days),
    Ginger (5days),
    Pineapple (13 days),
    Mangoes (7 days),
    Market development (5 days),
    Computer work (10 days),
    Feasibility of individually quick-frozen (IQF) procedures (30 days),
    Food processing and quality control (16 days),
    Postharvest handling and quality control (11 days), and
    Institutional strengthening (25 days).

- **Training Seminars:**

  — Pickling cucumbers (27 participants);

  — Asparagus (50 participants);

  — Tropical flowers (75 participants);

  — Heart of palm, passion fruit, tomatoes, and pineapples (128 participants);

- Mangoes (70 participants); and
- Twenty-six other activities related to marketing.

- **Technical Studies:**
  - Pineapple nurseries;
  - The national demand for pineapple processing;
  - Tahiti lime export plan; and
  - The cash flow for processing of pineapple, mango, and passion fruit.

- **Technical Assistance:** There were 180 experiments, 30 demonstration plots, 38 training courses, and many seminars, meetings, and observation trips in 1991; there were 173 activities in 1992. Activities included:
  - Production manuals for papaya and okra;
  - In integrated pest management, 15 demonstrations, 7 studies, 4 seminars, and 4 publications;
  - In monitoring and evaluation of toxic residues, 4 seminars, 37 workshops, 5 publications, and tests on 17 farms, including blood tests on 555 workers;
  - For plant protection and quarantine, the justification for an APHIS employee in Ecuador, the provision of monitoring and supervision in three provinces, and the provision of three training courses and one observation tour;
  - The establishment of several nurseries;
  - The promotion of berries, okra, baby corn, artichoke, snow peas, and French beans; and
  - Water analysis for pesticide residues in Lake San Pablo.

- **Input Supply:**
  - The procurement of 6,500 plant and seeds for blackberries, blueberries, and raspberries imported from Southland Corporation, Grand Rapids, Michigan;
  - The import of planting material for papaya and ginger from Hawaii, Tahiti lime from Costa Rica, and mango from Florida;
  - The import of 1.5 million pineapple seeds from Costa Rica and Colombia; and
  - The import of 4,000 palm seedlings.

- **Quality Control:**

  - The formation of a USDA/APHIS/PPQ office, with a resident inspector in Ecuador, financed by PL 480 funds;

  - The establishment of Ecuador's seal of quality and development of a corresponding inspection guide;

  - The presentation of 18 training seminars for quality control and postharvest management, with 1,247 participants;

  - The conducting of three studies on quality control;

  - The presentation of two workshops on industrial hygiene and safety;

  - A PROEXANT proposal to conduct pre-inspection services for products destined for the European Union;

  - The contracting of six quality control inspectors;

  - The implementation of technical assistance programs to improve postharvest management. The programs included 11 conferences by representatives of the agricultural export sector;

  - The provision of technical assistance to establish a fresh pineapple packing plant in Naranjito, serving 20 cooperative growers; and

  - The presentation of postharvest management training seminars for 404 participants.

- **Marketing Contacts and Agroprocessing:**

  - The selection of Ecuador as one of three countries to attend the ACDI APTLinks project conference with three export-ready firms — Tropifrutas S.A., Cremino S.A., and Provefrut S.A.;

  - The provision of technical assistance in production and marketing of banana puree, exotic tropical fruit marmalades, pigeon peas, papayas, and passion fruit; and

  - Inquiries into the feasibility of IQF processing in Ecuador.

- **Market News:**

  - Subscriptions to PRONET, fresh produce industry trade news, replacing USDA multinational market reports;

  - Commercial information from the Food Marketing Institute on frozen and canned processed foods; and

- Food News, commercial information from Europe on processed foods, especially frozen passion fruit juice, canned pineapple, and canned heart of palm.

- **Trade Fairs:** PROEXANT organized and funded Andina Trade '92, the first international agro-industrial trade show in Ecuador, with five major U.S. buyers and with 120 delegates from 15 countries.

- **Marketing Processes:**

  - The reformulation of the *ventanilla única* (one-stop shop) for export processing; and

  - The efforts of representatives and clients to open the market in France.

SUMMARY

The project was flawed in its initial design, in terms of technical assistance requirements, USAID office liaison, and expectations USAID had of the host country institutions. As a result, the targets set for the first phase of the project were unrealistic. In addition, there was not sufficient effort dedicated to the project to generate a significant increase in nontraditional agricultural exports. Nevertheless, the project introduced a new concept and had an impact on setting the policy framework that eventually assisted the private sector in taking off with increases in nontraditional agricultural exports.

In Phase II, the project was redesigned to give more technical and developmental assistance in the promotion and marketing of nontraditional agricultural export products and firms. The second phase of the project had realistic targets and expectations, and provided sufficient resources to accomplish the tasks. With one year to go, the project has accomplished most of its goals and objectives and, by the middle of 1994, will likely surpass $71 million in sales of nontraditional agricultural exports.

SECTION FOUR

ECONOMIC AND SOCIAL IMPACTS

METHODOLOGY

The methodology used for measuring and detecting economic and social benefits during the implementation of this project consisted of three components. For the assessment presented in this report, project quarterly and annual reports, as well as other project and country statistical reports, were reviewed in depth. In addition, a visit to the project site was carried out by the evaluator, who conducted in-depth interviews with project staff, government and USAID officials, private sector business operators, trade associations, and other project participants. During the evaluator's visit, there was a conference on the impact of the promotion of nontraditional exports on the environment and on women.

The evaluator designed a field survey for interviewing farmers and firm operators in the nontraditional agricultural sector. The evaluator selected and trained seven local interviewers to carry out this survey; the evaluator sat in on 12 interviews during the training period. Representatives of 54 firms were interviewed in the highlands, along with 27 farmers who supplied agricultural products to these firms. In the coastal lowlands, 19 firms and 30 farmers were interviewed.

IMPACTS ON PEOPLE

Beneficiaries

Four types of beneficiaries were identified for the NTAE project. However, clarity about the principal focus of the project was not established until the second phase. The beneficiaries were:

- Export promotion institutions (FEDEXPOR and ANDE);
- Exporter service and trading companies;[1]
- Exporters and shippers; and
- Producers.

Phase I of the project targeted the first three groups of beneficiaries, with little emphasis on the producers that were not also in one of the first three groups. Phase II provided much more technical assistance at the producer level, dealing with production and postharvest handling issues.

It was apparent during the design of both phases of the project that the focus was on medium-scale entrepreneurs — processors, exporters, producers, and traders. It was anticipated that these

[1] Exporters may facilitate the exporting of the commodities (via handling, moving, transporting, or storing) or they may provide a service to the exporting firms (via financing, administration licensing, documentation, inspection, provision of market information, and the like).

medium-scale operators would be the most able to withstand price fluctuations and financial risks and hire substantial numbers of laborers to produce the raw materials and process the products for export.

Employment

Direct Employment

The technique adopted for estimating total employment generated or stimulated by the project has several components. The most important component is the labor involved in production. Labor is calculated by multiplying the total acreage devoted to export crops by the employment required per hectare for each crop, expressed in full-time equivalent (FTE) work-years of 250 days. For 1993, this number, taken from the project's annual reports, was estimated at 31,226 FTEs for the NTAE project. This number corresponded to a total value of $65 million for nontraditional agricultural exports.

In addition to the FTEs required to produce the export products, a significant amount of labor is required to collect, process, package, and export the products. Fifty percent of the 1993 exports were in processed form, and the total value of exports included crops that were not counted in the calculations for FTE employment derivations used in the annual report estimates. Hence, it could conservatively be assumed that another 25 percent — roughly 7,500 FTEs — of the 1993 labor was employed in packaging and processing. This figure is presented in the Phase II Project Paper's employment estimates.

The project's target for total value of nontraditional exports was $71 million by 1994, with a corresponding employment figure of 14,000 new FTEs; the project has surpassed its employment goal, and it is well on the way to its sales goal.

Field Survey Results

Data from the results of the field surveys present an even greater impact. A similar methodology — that is, dividing the total volume of product processed or marketed by the agribusiness firms by the estimated tonnage produced per hectare to determine the acreage of production area, and multiplying the acreage by the estimated number of work-days required per hectare for the product — yields an employment figure for production of the commodities marketed by the firms in the sample. This calculation comes to 20,677 FTEs for the 54 firms interviewed in the highlands and 32,750 FTEs for the 19 firms in the coastal area, yielding a total for all firms interviewed at 53,427 FTEs.

In addition to the labor for the production of the commodities, each firm employed several people in its processing and packing operations. The interviews indicated that the 54 firms in the highlands employed an average of 107 workers on a full-time basis and an average equivalent of 9 full-time workers for seasonal labor.[2] In the coastal lowlands, the 19 firms interviewed employed an average of 54 workers and hired an average of 179 full-time equivalents in seasonal labor. For both zones, the total number of jobs represented by these derivations for factory and facilities labor was 10,691 FTEs. This number and the production labor yield 64,118 FTEs.

---

[2] The figure for seasonal labor was derived from data that showed approximately 25 workers employed for three months of the year:

25 workers x 3 months x 30 days per month/250 work-days per year = 9 full-time workers per year

Although these numbers are significantly greater than those estimated by the project's annual report, which attempts to record the project's influence on farms that directly received the project's extension services, these numbers do not reflect the total impact or influence of the project. The interviews carried out were conducted with firms selected from the list of all firms operating in each commodity group in the highlands or the coastal lowlands. In the highlands, the total number of firms packing or processing nontraditional agricultural products for export number is 200; 80 firms pack just flowers. Hence, the sample covered perhaps 40 percent of the total number of firms. If those not interviewed produced and processed the same amount of product, then the total estimate for full-time equivalent employment would be significantly higher than that measured and calculated in the interviews. It appears that the interviews included the major packing firms in the coastal area and, hence, probably covered much more of the total in the lowlands. For this reason, a conservative estimate of 65 percent was chosen as the percentage of total exporting firms the sample represents. Using this figure, the employment figure for the total number of firms could be extrapolated to 98,634 FTEs.

Forward and Backward Linkages

To produce and market these products, a significant increase in input supplies and transportation is required for this sector. It is assumed that the impact of backward and forward linkages could be as great as 10 percent of the farm and factory workers estimated above. The numbers from the annual report yield 3,903 FTEs; applying this figure to the numbers calculated from the interviews (64,118 FTEs) yields 6,412 FTEs. For total employment at 98,634 FTEs, the number of backward and forward linkages approximates 10,000 FTEs. Table 4 summarizes total employment.

TABLE 4

TOTAL EMPLOYMENT

	Annual Report	Field Survey
Farm Labor	31,226 FTEs	53,427 FTEs
Factory Labor	7,807 FTEs	10,691 FTEs
Backward and Forward Linkages	3,903 FTEs	6,412 FTEs
Total Labor	42,936 FTEs	70,530 FTEs

Agribusiness Sector Impact and the Project's Impact

The labor estimates presented above are based on the labor required to produce and process products for nontraditional agricultural exports, according to the project's classifications. These products include fresh cut flowers, processed fruits and juices, fresh fruits and vegetables, processed vegetables, and specialty crops. However, the agribusiness sector (not just the nontraditional agricultural export sector) includes many more products than those identified by the project. The Ministry of Agriculture's research and extension program, PROTECA, reaches more than 157,000 hectares of commercial crops, including rice, bananas, cacao, coffee, plantain, potatoes, beans, and cotton. In addition, the aquaculture, handicrafts (with agricultural products), and wood products sectors are not included in the numbers above, but the producers and processors in those sectors received direct support from the project and

indirect support through their associations. In addition, many products attended to by the Ministry of Agriculture are also exported and processed; in some way, the NTAE project has affected their well-being, promotion, and development. Everyone interviewed by the assessment team recognized that firms outside the project were affected by the efforts of the project. To estimate the employment effect of this impact, one could take a per hectare labor figure of 100 work-days per hectare (a somewhat conservative number) for 125,000 hectares; this would yield an additional 50,000 FTEs for production alone.

Multiplier Effect

The multiplier effect is the impact on the economy that is generated by the demand created from the income of the new employees whose jobs were created by the project. In this case, the employment estimates range from 40,000 to more than 200,000, depending on the estimation methodology applied. This employment will create a demand for consumer goods, food products, services, transportation, and the like. For this analysis, a multiplier effect of 4 is used for the direct factory and facilities labor and a factor of 0.5 for the farm labor. This works out to the following when the data from only the interviews are used:

TABLE 5

LABOR FROM THE MULTIPLIER EFFECT

Factory and Facilities Labor	10,691x 4 = 42,764 FTEs
Farm Labor	53,427 x 0.5 = 26,714 FTEs
Total Labor	69,478 FTEs

Employment Income

Taking the total employment generated from the survey data and multiplying the labor by the wages reported in the survey, total wage income reaches $13 million for the 73 firms interviewed. Adding the wages of farm production labor increases the wage bill by $27 million, to a total of $40 million dollars for labor. If these 73 firms represent 65 percent of the total population for nontraditional agricultural exports, then the total labor bill is $62 million, representing about 66 percent of the total value of production (assuming $18 million — 20 percent — is produced and sold domestically by these firms).

IMPACT ON THE SECTOR

The principal impact of the project has been on a sectoral level in Ecuador. In the early 1980s, the project began to support and strengthen the institutions that were promoting Ecuador's shift to nontraditional exports because of the decline in prices and demand for traditional exports. There were two results from this effort. The first result was the creation of a policy support structure that gave more support to the unique demands of this new sector, nontraditional agricultural exports. This was realized with the formation of the *ventanilla única* for export documentation and processing. The addition of a USDA/APHIS/PPI resident officer also eased the exports of fresh products into the United States. In

addition, the significant effort devoted to phytosanitary control and postharvest management has assisted the sector in becoming more viable, with more sophisticated crops and products. A new project is being designed that will influence the development of agroprocessing.

The second result was the strong response in nontraditional agricultural exports, which took three years to establish a base but is now showing a 20 percent annual increase in dollar value of exports. Although it will take much time and effort to completely restructure the agricultural sector to replace the earnings lost to the fall in demand for traditional exports, the nontraditional sector is making strong inroads at this time, to a large extent because of the efforts of the projects supported by USAID/Quito.

IMPACT ON FIRMS

For the analysis, Asesor, Inc. interviewed several firms throughout the country that were members of FEDEXPOR and ANDE. The firms were asked their opinions about the services provided by these organizations and to what extent the firms had received services from the NTAE project. Unfortunately, some of the raw data of the study were not presented in Asesor's analysis; as a result, it is difficult to judge the validity of this study. However, from the data it was possible to determine the relative size of the agribusiness export sector. Table 6 shows the number of firms in each organization or producer association listed in 1989.

TABLE 6

PRODUCER ASSOCIATIONS

Association	Number of Members
Flower Producers and Exporters	35
Producers of African Palm Trees	450
Sugarcane Producers (Carchi and Imbabura)	80
Quinoa Producers	23
Association of Input Suppliers	127
Producers of Tree Tomatoes	28
Asparagus Producers	16
Fruit Producers (ASOFRUT)	10
Agricultural Producers Association (ADEPA)	65
National Association of Potato Producers	120

The PROEXANT team was asked to identify the number of firms producing and exporting fresh or processed nontraditional agricultural products in the highlands; the following results were obtained.

Fruit	34 firms
Asparagus	56 firms
Hearts of palm	18 firms
Broccoli	11 firms
French beans	3 firms
Artichokes	18 firms
Cucumbers	3 firms
Cut flowers	80 firms

For three of these firms, the strategy of contract growing was well developed. These firms, their product, and their number of outgrowers are listed below.

Agroexport	Asparagus	16 contracted growers
Agrotech	Asparagus	19 contracted growers
Agrofrio	Broccoli	15 contracted growers

The field survey collected a significant amount of information on the firms interviewed, summarized in Table 7.

POLICY CHANGES

The project's target was to conduct three major analyses of public policies relating to export promotion. FEDEXPOR commissioned three such studies, "An Opinion Survey on the August 11, 1986, Economic Measures," "Analysis of Constraints Facing the Exportation of Non-Traditional Agricultural Products," and "Alternative Measures for the Exchange Rate Problem." With these studies and with other information gathered through the project, FEDEXPOR attained enough influence to help shape government decisions in nontraditional exports. Three measures were induced directly by FEDEXPOR.

The first was the Government of Ecuador's decision to free foreign exchange transactions from government controls, allowing exporters to use the private banking system to carry out exchange transactions. The second measure was the government's decision not to terminate FOPEX, which provides credit that allows exporters to finance their pre- and post-shipment costs at preferential interest rates. The third measure was the government's decision to let exporters value exports made before March 3, 1988, at the rate of exchange of the free market and not at the official rate, which was 30 percent less.

Although the evaluation clearly states that FEDEXPOR's influence on the government is not all because of the role of the NTAE project, the project has had a substantial impact on FEDEXPOR's credibility and strength in this area. Moreover, FEDEXPOR has been able to achieve representation on several government committees and forums, such as the Customs Administrative Committee, the Advisory Commission on Foreign Commerce, the International Commission on Canning and Packaging, and the International Transport Commission. In addition, the project has trained four commercial attaches serving in Germany, Chile, Spain, and Brazil.

TABLE 7

STRUCTURE AND ACTIVITY OF FIRMS

	Highlands	Coastal Lowlands
Time in operation	6 yrs	5.45 yrs
Asset Value		
Buildings/Facilities	$560,400	$1,356,000
Land	$238,400	$280,680
Percentage less than $500,000	46%	40%
Percentage more than $1 million	22%	28%
Ownership		
Incorporated	47%	50%
Family-Owned	24%	25%
Source of Raw Materials		
Own Production	98%	60% (not excl.)
Contract Farmers	28%	25%
Field Purchases	9%	5%
Factory Purchases	22%	10%
Firm Provides Inputs to Growers	13%	25%
Firm Provides Information to Growers	20%	35%
View of Market		
Improving	56%	40%
Static	28%	35%
Falling	17%	20%
Location of Markets		
United States	41%	46%
Europe	27%	20%
Domestic Urban	14%	30%
Canada	5%	2%
Andes Region	13%	2%
Average Employment per Firm		
Full-Time	107	54
Seasonal	9	179
Average Salary		
Permanent	$123/mo.	$142/mo.
Part-Time	$106/mo.	$ 95/mo.

In the second phase of the project, even more policy influence was generated. Through studies, meetings, reports, and seminars, 143 policy-related activities were carried out in 1991 and 1992. These activities contributed to the passage of several laws on labor, foreign investment, bank guarantees for export operations, customs reform, and the reduction of subsidies. According to the evaluator for USAID's LAC TECH project, "The composite of these activities was critical to the passage of the Ley de Facilitación de Exportaciones y Transporte Acuático [Law to Facilitate Exports and Maritime Transport]-and to the development of implementing regulations." One of the most important pieces of legislation influenced by the project in the last two years was the pesticide law, which controls and guides the use of pesticides on nontraditional crops.

SOCIAL IMPACT

From the information available prior to the field survey, two significant impacts stand out. In statements from two independent evaluations, reference is made to the fact that, for the employment generated by the project, between one-half (according to the 1993 Annual Report) and two-thirds (according to the LAC TECH evaluation) are women. From the field survey, 63 percent of the full-time workers in firms in the highlands were women, whereas only 37 percent of workers in firms in the coastal lowlands were women. For seasonal workers, 48 percent in the highlands were women and 40 percent in the lowlands were women. Women constituted 58 percent of the farm labor.

The second impact has to do with environmental and worker safety. The project has introduced a strong program on phytosanitary control, care in pesticide use, and postharvest management and has introduced a special program on health care and family planning. Project information collected during the field visits shows that 28 courses or workshops were given in pesticide use and control, with 1,471 participants, of which 43 percent were women. The special program on health care and family planning was administered to 28 flower companies, benefiting 2,023 workers, 62 percent of them women. For the health care program to determine pesticide contamination, blood samples were taken on 504 workers, of which 285 were women, and an analysis of pesticide residuals was conducted. To date, no toxic levels have been detected.

USAID contracted a study with the National Nuclear Energy Institute of Ecuador through World Resources Institute of Washington, D.C., to analyze pesticide residuals run-off in the areas surrounding four types of farms that produced nontraditional agricultural exports, in the highlands and in the coastal lowlands. Dr. Raul Merino conducted a rigorous study to U.S. standards, and no residuals above the accepted tolerance levels could be identified.

SECTION FIVE

FACTORS AFFECTING THE PERFORMANCE AND IMPACTS OF THE PROJECT

PROJECT DESIGN

The initial design of the NTAE project was flawed in several ways. In the first phase, the project lacked a clear-cut entity responsible for project operations. Moreover, there were no expatriate in-country technical advisors. And the project components were directed at obtaining information about product markets rather than developing products to sell. Moreover, during this period the USAID mission went through severe internal upheaval, which affected the project because of the lack of continuity and focus. At times, there was no one in the mission responsible for the project.

All of these issues were highlighted in the project evaluation; the evaluation also noted that significant groundwork had been made in preparing the country to expand nontraditional agricultural exports and that exports had increased from a virtually nonexistent base to roughly $8 million per year. A new design was developed in 1989 to address most of the project problems and remedy project operations.

The project structure was modified to assign project responsibility to one entity, and a technical assistance contractor was hired to place expatriate staff in the host country project offices. In addition, a major component for technical assistance was added to attend to production issues, as well as to quality control and postharvest handling. The new design stressed project management and self-sustainability, and, in the second phase of the project, the local project management unit, PROEXANT, was established as a private stand-alone institution. PROEXANT has strong potential to attain self-sustainability in the near future.

At the time of the field visit, the project was on notice that it would be losing its financial support. As a result, the project staff devoted significant effort to redesigning the project to become self-sustaining. This entailed a reduction of force within PROEXANT, shifting priorities in order to provide services in marketing and input supply for a fee. Prospects for self-sustainability look promising.

Perhaps the most significant factor that caused USAID to terminate support for PROEXANT activities was the implementation and strict interpretation, at the expense of firms operating in the United States, of Sections 599 and 547 of the U.S. Foreign Assistance Act; the sections limit USAID support for activities that stimulate investments by U.S. firms. Although the wording of these sections does not prohibit USAID support for activities that tangentially stimulate investments, mission interpretation of a recent general counsel reading of the law suggests a more conservative approach to project activities such as PROEXANT, and this approach has led to a reduction of support. However, the project claims that PROEXANT is directed toward micro and small enterprises (especially when farmers who produce the commodities for export are considered as recipients of project benefits), women, and local organizations. In April 1994, PROEXANT signed a joint venture agreement with a Colombian grassroots firm to supply table fruits and vegetables to neighboring countries and regions such as Colombia, Venezuela, and the Antilles. The producers of these commodities, which do not include cut flowers, asparagus, or broccoli, are the majority of the highland small farmers, who have the capacity and skills to produce lettuce,

cabbage, carrots, and potatoes but have limited domestic markets for these medium-value products. This agreement will lead to a significant reorientation in the mix of beneficiaries of the project.

IMPLEMENTATION

Project Organization

The institutions tapped to develop and manage the NTAE project were always given high marks by the evaluators, but, nevertheless, inter-institutional conflicts arose several times. Because of the lack of clarity in the way the institutions were to relate to each other and in the responsibilities each was to carry out, each institution followed its own self-interest to a certain extent; this pursuit of self-interest jeopardized the efficient operation of the project. Throughout the project, there were several project managers, technical assistance contractor managers, and USAID project managers, and this turnover contributed to a lack of proper planning and administration. This is reflected in a project implementation schedule that included several amendments to raise or decrease project funding levels for each recipient institution. Project work plans were not forthcoming, and project monitoring was inadequate. Fortunately, in the last two years of the second phase of the project, institutional management and control has solidified, and the recent LAC TECH evaluation has noted substantial improvement in planning, supervision, financial management, and coordination of the project activities. The current implementation plan is progressing quite well, and technical assistance is contributing well to the efficiency and execution of the project.

ANDE looks out for the government's interests in foreign exchange earnings and employment, FEDEXPOR is concerned about the producers' and exporters' incomes, and the producer associations hold seats on PROEXANT's Board of Directors. In spite of these diverse interests that may affect PROEXANT's activities, the current project manager, Marco Penaherrera, has done a remarkable job of coordinating PROEXANT into an effective institution that yields significant benefits in the expansion of nontraditional exports and the generation of income, employment, and foreign exchange. A detailed operations plan for 1993 and beyond covers indicators, timetables, and counterpart and PROEXANT expenditures and activities. PROEXANT now has 45 staff members. The new monitoring and evaluation system is gathering data on USAID/Ecuador's principal strategic objective, which is to increase trade and employment in nontraditional exports.

Enabling Environment

This project was designed and introduced in a period of extreme protectionism for import substitution. However, because of the economic crisis that ensued when the international markets for petroleum and traditional agricultural exports declined, the country's politicians and economists were desperately seeking alternatives for earning foreign exchange to replace losses. In this context, the NTAE project emerged. Unfortunately, the existing laws were not conducive to the project's endeavors, and the agribusiness producers and processors were not cognizant of the requirements that pursuit of alternatives demanded.

However, the two organizations selected to implement the project, FEDEXPOR and ANDE, were chosen for their strategic political position in the commercial and industrial sectors of the country's economy. Perhaps the most notable impact of the project, especially in the early formative years of the nontraditional agricultural export sector, was the significant influence the project exerted on the

reformulation of the political and economic incentive structure supporting nontraditional agricultural exports.

FEDEXPOR and ANDE both enjoyed prestigious positions in Ecuador's political and economic hierarchy and used their positions to push for dramatic reforms, which eventually led to several new laws and regulations, including the creation of the one-stop shop for exporting. Nontraditional agricultural exports have reached such a level that they have attracted significant attention from the Government of Ecuador, with the result that appropriate policies are now being put into place to give unprecedented support to this sector. With the new nontraditional industrial export project, the impetus is even greater. A true transformation has taken place in Ecuador's economy, and recovery of lost foreign exchange, coupled with a strong backward linkage to employment, has been generated with the growth of nontraditional agricultural exports.

SECTION SIX

COST-BENEFIT ANALYSIS

The costs for the NTAE project are divided into two phases. The Phase I budget was $8.0 million and the Phase II budget was $4.5 million. From 1984 to 1994, nontraditional agricultural exports rose from virtually zero to $75 million (estimated for 1994). In Section Four of this paper, the employment generated in the nontraditional agricultural sector was derived. Direct employment was determined at 70,530 FTEs for the sample of firms interviewed and 108,508 for the total population of exporting firms. Using these data, it is possible to determine the cost to USAID for generating one job by dividing project costs to USAID by the total amount of employment generated. The second measurement is calculated by dividing total revenues stimulated in the final year of the project by total USAID expenditures. The former gives the cost to USAID to produce one job and the latter shows the income (or gross revenue) generated in country for each dollar expended.

Although the cost per dollar of revenues generated has been used as a measurement of cost-effectiveness throughout this assessment, a more relevant way of measuring project impact would be to divide the total income generated over the life of the project by the project's costs, yielding the internal rate of return. The normal life-of-project estimates range from the date of the project's initiation (when project costs begin) until the project's benefits stop accruing to beneficiaries. In a project of this type, in which exports will presumably continue indefinitely, an arbitrary date must be chosen for the termination of project benefits. For the purposes of this analysis, a life-of-project estimate of 20 years has been selected. This analysis has been conducted and the results are given in terms of the internal rate of return as a percentage. This value should be compared with deposit or investment return rates in the local financial markets in Ecuador, or — in terms of USAID's best bet for development sector investments — it should be compared with interest return rates in the U.S. market. The internal rate of return is calculated by subtracting the base level of $3.1 million of exports, incrementing this value along a trend line of $400,000 per year (for the exports reported in the various reports and evaluations), and subtracting the costs of the USAID project. This cost-benefit stream, from 1984 to 1994, is then subjected to the internal rate of return formulation, yielding a return rate of 124 percent. Running benefits out to the year 2005 increases the yield by only 1 percent, to 125 percent .

TABLE 8

RATE OF RETURN ANALYSIS

Method of Employment Estimate	Cost per Employee	Dollars Earned per USAID Expenditure
Direct Employment	$12.3 million/70,530 FTEs = $174 per FTE	$75 million/$12.5 million = $6.00
Employment within Total Agribusiness Population	$12.5 million/108,500 FTEs = $115 per FTE	$75 million/$12.5 million = $ 6.00
Internal Rate of Return	124%	

The analysis shows that significant labor is generated by the agribusinesses engaged in nontraditional agricultural products. The employment estimates are based on exports to the United States and estimates of exports to other countries. Significant domestic production is also stimulated by these activities, but has been taken into account only in the last labor estimate of 50,000 FTEs for the additional acreage of 125,000 hectares dedicated to traditional agricultural exports and domestic production. This amount was not added to the employment estimates used in the cost-benefit analysis. Even so, when the analysis presented is compared with corresponding figures in the microenterprise sector, the analysis shows much lower figures for the cost of generating one employee equivalent or one full-time job, falling into the range of a few hundred dollars, compared with several thousand dollars for microenterprise. With regard to the value of products generated in 1994 for all of the program dollars invested by USAID over the life of the project, the ratio is extremely high.

The internal rate of return analysis demonstrates that this type of project, regardless of how efficiently it is managed, has no equal in USAID's portfolio, in terms of the number of beneficiaries, jobs created, incomes earned, or foreign exchange generated, when compared with projects in agricultural research, industrial development, microenterprise, health care, education, or other kinds of projects the author has analyzed from an economic standpoint.

SECTION SEVEN

SUSTAINABILITY

The sustainability of activities designed to promote nontraditional agricultural exports has reached its ultimate goal with the privatization of the PROEXANT project management unit as a separate institution. Also, the USAID mission was instrumental in the formation of a private research and extension entity in Ecuador, FUNDAGRO. In addition, the mission recently established a sister project for the promotion of nontraditional industrial exports, modeled after the NTAE project. With all of these activities and institutions, and with the explosion in the total value of nontraditional exports in recent years, there is every indication that project benefits will be sustained.

SECTION EIGHT

LESSONS LEARNED

AGRIBUSINESS PROJECTS

The NTAE project in Ecuador was one of the first of its kind in USAID's portfolio of mission-based projects aimed at private agribusiness. Little experience had been generated within USAID on "business" projects before the mid-1980s. Projects until then had been directed at agricultural marketing systems, designed to improve domestic infrastructure (assembly and terminal market construction) and to establish perfectly competitive markets in all inputs and outputs. However, inherent economic structures in countries where USAID provides assistance worked against these designs, because the promotion of perfect competition was not in the best interest of the dominant political forces. As a result, government parastatals and marketing boards in many countries continued to prevail until the end of the 1980s. Moreover, during the 1980s the predominant development strategies in Latin America and Africa were import substitution and food security (or self-sufficiency). There was no understanding of the need to transform developing economies into an outward (export) orientation. Not until the late 1980s or early 1990s did the success of the Asian economies (when compared with African and Latin American economies) demonstrate that, without an outward orientation, there was little chance of achieving significant economic growth. It was within this context that the NTAE project was introduced.

DESIGN ISSUES

Within this context, and recognizing that agribusiness projects had not established a track record within USAID (or in any other donor agency), it was only natural that the design of the project would encompass some inherent flaws.

Institutional Choice

The project chose to work with the two most respected agribusiness organizations in the country, FEDEXPOR and ANDE. Each had been in existence for some time and had demonstrated success in influencing government policy and representing the economic sector of its clients — entrepreneurs and exporters. Although agribusiness and nontraditional agricultural products were new elements in the formula, the need to promote these concepts seemed to interweave quite nicely into the development fabric of Ecuador at the time. Recognition of the need to find new exports to replace the loss in revenues from traditional products was widespread throughout the government, the private sector, and the donor community.

However, the mix of institutions selected and the failure to assign one institution clear-cut responsibility for overall project implementation and responsibility for project activities, including design of project components, assignment of resources, and management of technical assistance, hindered the project in its attempts to develop efficient strategies for the promotion of its goals and objectives. Nevertheless, nontraditional agricultural exports began to take off in spite of this institutional and

organizational flaw in the project design. This flaw was corrected in Phase II of the project, and the project has performed extremely well since then, well surpassing all its targets, most of them a year early.

Project Components

The principal problem with Phase I of the project was the lack of technical assistance for the development of the new nontraditional agricultural commodities, in terms of production technology, planting material, and quality control issues. It is impossible to sell what is not produced. Although the farmers of Ecuador are skillful and competent, they needed new information on what crops to grow, how to grow them, and how to protect them. This information was missing from the first project. However, the second phase of the project added this assistance in a significant manner, and this has been critical in the success of the project.

The project was originally only to provide information. The components that were added were technical assistance for research (crop demonstrations and trials), technical assistance for technology adaptation (showing farmers how to grow the tested crops, importing planting materials, developing phytosanitary recommendations, and bringing in an APHIS representative for inspection services), and development of an Ecuadorian seal of quality (through a widespread quality control program for production and postharvest handling).

Project Model

The project model changed significantly as the project matured. Originally, there was the idea that information alone on market opportunities would be sufficient to entice entrepreneurs to engage in nontraditional agricultural production for export. This was a faulty idea. The second stage of the project introduced technology and planting materials and showed how to use them properly to generate high-quality products. This model of technical assistance and project development was quite successful in stimulating a significant increase in nontraditional agricultural exports. Furthermore, the project operation — that is, the project management unit PROEXANT — was formed into a private institution. This institution seems fashioned after the Fundación Chile model. It appears that this last stage of development will propel the sector into the next decade with ever-increasing quantities of nontraditional exports, worth over $100 million per year.

Product Selection

This agribusiness project was narrowly defined in order to support the development of exports of nontraditional agricultural products. These products were identified as cut flowers, tropical and ornamental plants, broccoli, asparagus, hearts of palm, pigeon peas, passion fruit, several berries — including strawberries, blueberries, and raspberries — and a few other specialty fruits and vegetables. Agro-industries such as wood products (dimensioned boards, component pieces, and furniture); cotton, wool, and silk textiles; leather, llama, and alpaca products; chocolate processed products; fruit and vegetable canned products; and shrimp aquaculture are not included in the project's coverage of technical assistance, market information, or enterprise support. Although a new project designed to support nontraditional industrial exports may address these products, it is unlikely that they will be targeted commodities. Nevertheless, the agribusiness sector of the Ecuadorian economy clearly encompasses these products, and their production, domestic sales, and exports may account for substantially more in dollar value than the total of the NTAE products. However, this assessment is directed toward those products

targeted by the NTAE project and toward the firms and the individual growers and packers that export the products.

Original Objective, New Directions

In 1984, and throughout the late 1980s, USAID maintained its interest in promoting agricultural production and productivity, but clearly moved as well into promotion of private sector enterprises that were profitable and sustainable, in order to attract private investment capital to co-finance the development process. This period also witnessed the move away from parastatal institutions to a strategy that endorsed private sector initiatives above all else — to a certain extent ignoring producer cooperatives, farmer associations, small farmers, women farmers, and ethnic minorities as targeted recipients of USAID support.

A new U.S. administration was inaugurated in 1993 and a dramatic shift in USAID's objectives was observed, with a renewed emphasis on USAID's original strategies of generating benefits for the disadvantaged, and with a newly focused concern for the environment. In light of this reorientation, the question arises about how appropriate the agribusiness projects may be for satisfying these new objectives while continuing to foster economic growth, foreign exchange earnings, and broad-based employment and income.

Nontraditional Agricultural Exports as Substitutes for Traditional Agricultural Exports

Although the move to support nontraditional agricultural exports was designed to substitute the value of their exports for the losses incurred when prices for traditional agricultural exports prices fell, it remains a difficult task for these products to reach such goals in export value. When the prices of coffee, cacao, bananas, and sugar fell and the prices of petroleum products also edged downward, Ecuador was faced with significant lost revenues compared with earlier periods — on the order of several hundreds of millions of dollars. Unfortunately, the total export value of the NTAE project's targeted products is just now reaching $100 million and cannot be expected to fully substitute for the traditional crops. This means that there is a real need to continue to develop support programs for traditional crops in exports, product transformation, and supply for domestic markets, in order to help countries that were presented with phenomena similar to those Ecuador experienced maintain the vigor of their agricultural sectors and establish a broad base of growth in their agribusiness sectors.

In calling for widespread support for agribusiness activities that incorporate traditional as well as nontraditional agricultural products, it should be recognized that the promotion of some nontraditional products does not generate broad-based benefits in terms of freedom of entry for small-scale farmers in the marginal, subsistence-oriented rural areas of the country. Some nontraditional agricultural products require large capital expenditures in production and marketing technologies as well as exterior market contacts and sophisticated business acumen in order to manage the high risks faced in the volatile markets where these products are sold. Exporting nontraditional fruits, vegetables, and flowers is a difficult game for any entrepreneur, and small-scale farmers are least equipped to play it.

It is in this context, then, that one can suggest that strategic constraint-reducing interventions in the traditional crops sector would have a broader and more far-reaching impact than would similar levels of investment in the nontraditional agricultural export sector. However, the evidence from the assessment in Ecuador shows that one cannot rule out the nontraditional agricultural export sector in terms of

stimulating significant levels of employment, income, foreign exchange, and the participation of women and small-scale farmers. The impact generated by the NTAE project is significant and noteworthy.

MANAGEMENT ISSUES

Expatriate Assistance

The role of an expatriate contractor is critical to project success. In Phase I, this role was unclear, there was no resident advisor, and the tasks assigned were not the most appropriate. Too much emphasis was placed on providing timely information, for which, it was assumed, entrepreneurs in Ecuador would pay handsomely. This assumption did not materialize and the contractor's services were not in large demand.

In Phase II, the contractor placed several resident advisors in the project management unit and attended to the critical services of technology development, technology transfer, and quality control. By doing so, the contractor was in greater demand. The selection of well-trained, technically qualified expatriate staff was imperative for project success. In addition, the capacity of the firm selected to backstop the project with market information, market contacts, new product ideas, and technologies was essential.

Technical Assistance

Short-term technical assistance of the highest quality is important in an agribusiness project. Several consulting firms are capable of providing this assistance. If a contractor selected does not deliver on this key project assistance, the contractor should be replaced. The contractor for this project has performed extremely well. Several new technologies have been introduced that may make Ecuador a principal exporter of nontraditional commodities — especially those that have reached or are scheduled to reach $2 million in sales per year.

OUTPUTS AND IMPACTS

Measurement of Benefits

The NTAE project addresses only one subsector of the agribusiness sector. Products such as coffee, shrimp, cotton, hides, cacao, wood products, and textiles are not included. Input sector products, such as fertilizers and pesticides (from the production perspective, not their control and use) are also not included. If the project were to include these activities, its impact would be even greater. Nevertheless, it has generated significant impact just within the nontraditional agricultural export subsector. This is quite an achievement for a USAID project. The reason for the large impact is that the crops selected for export require much greater levels of employment per hectare than most other products mentioned above, and significantly more than do subsistence crops such as maize and beans. Some horticulture crops use 400 work-days per hectare for a growing season that may last only 90 days, whereas maize needs only 60 work-days per hectare for a growing season that lasts 10 months.

Total direct labor in terms of full-time equivalent jobs is 70,530 in nontraditional agricultural exports, based on the field survey results from 73 firms. Adding a multiplier effect increases employment generated by another 70,000 FTEs. When the total level of nontraditional agricultural exports are included for the total value of 1994 exports, $75 million dollars, the employment figure reaches 108,308, assuming that the interviewed firms represent 65 percent of the total number of exporting firms. When other crops and products are considered for the acreage not used for nontraditional exports, the farm production and agribusiness-related jobs generated by the project add 50,000 FTEs to the total. In terms of employment, income, and foreign exchange, agribusiness is one of the most prolific sectors in Ecuador. The agribusiness sector merits close attention from the USAID mission.

Part of the objective of the PROEXANT project was to stimulate exports at $2 million per year for at least five commodities. This has been achieved for pigeon peas, which achieved $4 million in exports; passion fruit (*maracuya*), $10 million in exports; baby's breath (*gypsophila*), $8 million; summer flowers, $3 million; and carnations and mini-carnations, $2 million.

Environmental Impact

Much attention is being directed toward the impact on the environment from the high levels of use of inorganic fertilizers and chemical pesticides, fungicides, and herbicides on nontraditional agricultural products, especially flowers, broccoli, and asparagus. However, a recent study funded by USAID failed to detect levels of chemical residues that were beyond the current tolerance levels applicable in Ecuador. The study measured the effects of runoff in the groundwater, soils, and air surrounding enterprises growing four nontraditional crops in the highlands and for a similar sample in the coastal lowlands. With the collaboration and lobbying of PROEXANT, a new pesticide use law has been established to control and guide the use of pesticides and other chemicals in Ecuador.

It should be recognized that fertilizer and chemical use rates have been the flagship of the green revolution; the International Food Policy Research Institute and other organizations use the levels of fertilizer and chemical use to determine the degree of development a country has attained, with higher levels scoring as higher development. Moreover, crops such as potatoes, lettuce, and many other vegetables require high levels of fertilizers and chemicals to produce an acceptable product for the market. The result is that agriculture is dependent on chemicals if the market demands blemish-free products. Unfortunately, the market and the environmentalists are not always in accord; the demand for costly, organically grown products covers a small fraction of the fruit and vegetable market.

Wage Increases in Surrounding Areas

There is another phenomenon at work in the areas where nontraditional export crops are grown. Local labor has become scarce. In the survey interviews, workers at several flower operations indicated that they came from long distances to work in these facilities. Even those farmers wanting to hire laborers for crops other than nontraditional export crops have difficulty finding hired hands; in addition, they find that the expected wage rates have increased above the former locally accepted minimum agricultural wage. In other words, the demand for labor in nontraditional crops has bid up the wage rate across the board in agriculture — not just in the nontraditional export industries. This situation was found in Guatemala as well. Although this does not help the small farmer who must hire local labor to harvest potatoes or cultivate peas, it does drive the country toward full employment. The impact of the nontraditional agricultural export subsector has already had an impact on the economy throughout the country.

The Seal of Quality

Training in postharvest handling and management has been a major effort of the project, along with training in phytosanitary control and food and worker safety. One notable achievement has been the assignment of a permanent APHIS representative in Ecuador to inspect the results of hot-water dip treatments for mangoes and supervise the fly-traps that have been installed on the coast. Formal courses in these areas have been attended by 3,700 participants; 30 percent of the participants were women.

Much of PROEXANT's success results from the development of the Ecuadorian seal of quality. PROEXANT is the only organization that can bestow the seal on a product. The concept was fashioned on a system pioneered by Fundación Chile. PROEXANT inspects all products for postharvest damage, proper handling, grades and standards, and the use of pesticides and other chemicals in their production. Products that receive the seal gain respectability in several export markets. PROEXANT hopes to improve on this service in the near future, to be designated as the sole bestower of the seal by the Ministry of Agriculture, and to be permitted to charge a reasonable fee for this service, in order to replace the donor funding that currently covers the costs of providing this service.

PROJECT PERFORMANCE

Enabling Environment

Initially, the enabling environment was not conducive to nontraditional agricultural exports, but, as the project progressed, the enabling environment shifted dramatically to support the project's efforts, in large part because of the project's efforts in lobbying its principal institutional counterparts.

Institutional Choices

Although the choices of the institutions for inclusion in project endeavors were correct, the management organization was originally flawed. As the project progressed, this oversight was corrected and the project has improved considerably since then. Many of the institutional limitations depend on the individuals chosen for or assigned to key positions and, in long-standing organizations with small operating staffs, flexibility is often limited. This problem cannot always be dealt with easily and smoothly, and often must be borne until a natural solution surfaces. This can delay the development of an otherwise good project. Fortunately, these problems were resolved in due course and the project is well on its way to being quite successful on all fronts.

Choice of Agribusiness Development Model

There was no adequate agribusiness development model to follow in the original project. However, several models have surfaced since the beginning of the project. In addition, USAID and several consulting firms have gained experience around the world. As a result, it has been possible to introduce models especially attuned to nontraditional agricultural exports. The model now being pursued — that of a private institution devoted to the introduction, development, promotion, and marketing of the nontraditional agricultural exports of Ecuador — deserves considerable attention and continued, substantial support.

COST-BENEFIT ANALYSIS

If the goal of USAID projects is to increase rural employment and incomes, then the package of investments chosen and designed for USAID's portfolio must consider potential return rates. Unfortunately, special interests that draw USAID activities toward equity issues, U.S. protectionism, or natural resource maintenance (protection of biodiversity) take precedence over these more economically viable activities. However, the NTAE project in Ecuador demonstrates that the development of nontraditional agricultural production and exports clearly generates high employment and income rates; when compared with the resources expended by USAID, the NTAE project's impacts are the highest ever demonstrated by a USAID project.

The cost per job created is only $174 for direct employment and $115 when the multiplier effect is added. And this covers only nontraditional products as identified by the project, excluding many other agricultural products that have benefited from the project's influence. Inclusion of these products would halve these cost figures. This is in comparison with cost figures for microenterprise projects that run over $1,000 — and sometimes up to $10,000 — for each job created.

From a different perspective, one could look at the gross revenues per year generated for the entire USAID investment. In the last year of the project, this figure stands at $6.00 in revenues per dollar expended, but this indicator is not as relevant as a cost-benefit formulation. Subtracting project expenditures from net benefits over the life of the project — that is, incremental gross revenues above the trend line for increases of exports outside the project — yields an internal rate of return of 125 percent. If only 30 percent of gross revenues are used in the formulation, to represent net profits to producers and processors, then the internal rate of return falls to 31 percent. However, since most production costs are in land and labor, with a maximum of 30 percent of gross revenues spent on purchased imported inputs, the most appropriate return rate would be one that uses 70 percent of gross incremental revenues, which yields 72 percent. This would be the case because the labor and land costs that are paid to produce the crops become part of the incremental income generated for the country.

The returns calculated in the assessment of the NTAE project are among the highest recorded in CDIE agribusiness assessments. This is attributable to the backward linkages to farm production. Two assessments with similar results are those of Guatemala's agribusiness portfolio and Bangladesh's fertilizer improvement project. It also demonstrates the high labor impact because of the labor demand in production and packaging of these high-valued horticultural crops, including flowers.

In addition, evidence has surfaced that employment and income are also generated in the United States and in other importing countries. Studies from the PROEXAG project in Central America show that incomes earned for marketing and distributing these products in the receiving countries can be twice the free on board (FOB) value of the exports. For $75 million in exports, this value could be $150 million. If 50 percent were for labor at $7 per hour, total labor in the developed countries could be about 5,357 FTEs. Moreover, evidence exists to show that, for every dollar in exports to the United States, $0.70 is spent on imports to Ecuador from the United States. In many countries, such as Guatemala, this relationship has reached parity — for every dollar exported to the United States, a dollar is imported from the United States. No other set of investment activities financed and developed by USAID programs has led to the magnitude of benefits generated by Ecuador's agribusiness exports.

SUSTAINABILITY

Sustainability is perhaps the most notable impact achieved with this project. As of this writing, PROEXANT has become a private institution and is beginning to generate income from services and representations. The most successful export development and promotion institution in Latin America — perhaps in the world — is Fundación Chile, which was formed with International Telephone and Telegraph (ITT) capital and Chilean capital in 1976. Fundación Chile conducted research and extension trials in new export products, and stimulated agricultural nontraditional exports, which now reach almost $7 billion per year. The model, a form of endowment fund that invests in pilot and commercial agribusiness trials in nontraditional products, including aquaculture and wood products, is a proven methodology; it may be the model PROEXANT will follow. If this is the case, the prospects for sustainability of Ecuador's nontraditional agricultural exports look promising indeed, and export values should far surpass $100 million per year by the year 2000.

As an indication of what lies ahead for PROEXANT, a recent development should be pointed out. In April, PROEXANT, as a private nonprofit corporation, signed a joint venture agreement with COMERSUR, a Colombian firm from the Pasto region, to produce and market fruits and vegetables to Pasto for further distribution within Colombia and for export to Venezuela and the Antilles. PROEXANT is considering the acquisition of a warehouse and packing facility in Ambato to collect and pack fruit and vegetables to be shipped to Pasto. PROEXANT plans to enter into production contracts with farmers who will be shareholders in the COMERSUR–PROEXANT company and who will produce passion fruit, potatoes, green beans, peas, carrots, cabbage, onion, cauliflower, and various berries — many products easily produced by the small-scale potato farmers of the highlands. This significantly expands the potential for increased production and exports for the PROEXANT participants and for the highland regions of the country.

CONCLUSION

In interviews with more than 20 private firms, there was unanimous agreement that the export movement described in this assessment would not have occurred without the promotional activities of PROEXANT.

BIBLIOGRAPHY

Ampuero, Luis and Joseph Burke, *Comparative Advantages of Ecuadorian Industry: Recommendations for Implementation of the NTIE Project*, USAID/Quito, prepared by DAI, Quito, Ecuador: September 1991.

Asesor, Inc., "Evaluation of the Non-Traditional Agricultural Exports Project," Quito, Ecuador: January 1987. (Spanish)

Bennet, Thomas, Stephen Lack, and Rafel Diaz, "Evaluation of the Non-Traditional Agricultural Exports Project," USAID/Quito, Ecuador: May 1988.

Burke, Joseph, "Annual Report (Partial Year): April 1-September 30, 1993," Non-Traditional Industrial Export Project, USAID/Quito, Ecuador: October 1993.

DEVRES, Inc., "Non-Traditional Agricultural Exports Project Review," USAID/Quito, Ecuador: May 1988.

Ecuador Trade Center, *Newsletter*, Miami, Florida: December 1993.

Ecuadorian-American Chamber of Commerce, *Newsletter, Ecuadorian American Business*, Quito, Ecuador: August 1992.

Fundación Ecuador, Pamphlet, Quito, Ecuador: September 1993.

Harari, Raul, "Women's Conditions and the Work Environment in Plantations and Processing Plants for Non-Traditional Export Crops," Institute for the Promotion of Agriculture, Quito, Ecuador: March 1994. (Spanish)

Kilmer, Gary, *Application of the GEMINI Methodology for Subsector Analysis to MSE Export Activities: A Case Study in Ecuador*, USAID/Quito, prepared by USAID's Growth and Equity through Microenterprise Investments and Institutions (GEMINI) Project, Quito, Ecuador: June 1993.

Magill, John and Donald Swanson, *Ecuador Micro-Enterprise Sector Assessment: Summary Report*, USAID/Quito, prepared by the GEMINI project, Quito, Ecuador: April 1991.

Pattie, Preston, Harold Mannion, et al., "Ecuador Non-Traditional Agricultural Exports Project Redesign," Chemonics, USAID/Quito, Ecuador: January 1989.

PROEXANT, "Annual Report of Activities and Evaluation, 1992," Quito, Ecuador: January 1993. (Spanish)

PROEXANT, "Evaluation of Refrigerated Transport and Storage Systems," Quito, Ecuador: March 1994.

PROEXANT, *Informativo*, No. 24, Quito, Ecuador: December 1993. (Spanish)

PROEXANT, *Informativo*, No. 25, Quito, Ecuador: January 1994. (Spanish)

PROEXANT, "Institutional Analysis and the Design of a Strategic Plan for the PROEXANT Corporation," Quito, Ecuador: December 1993. (Spanish)

PROEXANT, "Postharvest Management Manual for Horticulture Crops," Quito, Ecuador: 1992. (Spanish)

Salamea, Lucia, et al., "Role and Impact on Women Workers in Non-Traditional Export Crops in Ecuador," CEPAES, Quito, Ecuador: February 1994.

Shenk, Myron and Charles Ward, "Environmental Assessment of USAID/Ecuador Non-Traditional Agricultural Exports Project, Phase II," Quito, Ecuador: February 1990.

Soler, Santiago, "Development Alternative's Ecuador NTAE Project Annual Report, 1993," Quito, Ecuador: March 1994.

Thrupp, Lori Ann, "Challenges in Latin America's Recent Agroexport Boom: Sustainability and Equity of Non-Traditional Export Policies in Ecuador," World Resources Institute, Washington, D.C.: January 1994.

USAID/Ecuador, Project Paper, Non-Traditional Agricultural Exports, Quito, Ecuador: August 1984.

Warfield, Elizabeth and Karen Leban, "AID Agribusiness Projects in Latin America: 1970-1984," USAID/ST, Washington, D.C.: November 1984.

Waters, William F. and Lucia Salamea, "Gender Issues in the Restructuring of Ecuadorian Agriculture," 18th International Congress of the Latin American Studies Association, Atlanta, Georgia: March 1994.

Weiss, Kenneth, "Evaluation of Project No. 518-0019, Promotion of Non-Traditional Agricultural Exports (PROEXANT)," USAID/Quito, Ecuador: March 1993.

Weiss, Kenneth, "Report of Mission for USAID/Ecuador," USAID/Quito, Ecuador: August 1991.

Weiss, Kenneth and Edmund Andrews, "Recommendations for Improvements of the NTAE Project (No. 518-0019)," USAID/Quito, Ecuador: October 1990.